

**IN THE CLAIMS:**

Please consider the claims as follows:

1. (currently amended) A method for targeting interactive virtual advertisements, comprising:

assigning ~~at least one interactive spot~~ a plurality of interactive virtual advertisement spots to a program;

assigning ~~one or more~~ of a plurality of interactive virtual objects to the ~~at least one virtual advertisement spot~~ plurality of interactive virtual advertisement spots, wherein said ~~one or more~~ plurality of interactive virtual objects are dynamic;

generating a retrieval plan;

providing the retrieval plan to a terminal, wherein the retrieval plan instructs the terminals to select one of the ~~one or more~~ plurality of interactive virtual objects selected from a ranked list of the ~~one or more~~ plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of said ~~one or more~~ plurality of interactive virtual objects in each one of said ~~at least one virtual advertisement spot~~ plurality of interactive virtual advertisement spots, wherein each ~~one of the plurality of interactive virtual advertisement spots~~ one of the plurality of interactive virtual advertisement spots are in a different location in said program;

allocating delivery bandwidth within an available amount of total bandwidth in a communication channel for the selected one of the ~~one or more~~ plurality of interactive virtual objects via a resource management engine;

delivering the selected one of the ~~one or more~~ plurality of interactive virtual objects via said allocated delivery bandwidth;

receiving a selection of at least one of the ~~one or more~~ plurality of interactive virtual objects;

logging the received selection of said at least one of the ~~one or more~~ plurality of interactive virtual objects; and

billing an advertiser of said selected at least one of the ~~one or more~~ plurality of interactive virtual objects in response to said logged selection.

2. (currently amended) The method of claim 1, wherein generating the retrieval plan comprises:

- assigning the terminal to one or more groups;
- designating a unique group mask for one or more of the groups; and
- assigning one or more of the groups to one of the plurality of interactive virtual objects, wherein the group mask indicates whether the terminal displays a particular interactive object.

3. (original) The method of claim 2, wherein the step of assigning the terminal to one or more groups comprises:

- generating group assignment rules;
- delivering group assignment rules to the terminal;
- storing the group assignment rules at the terminal; and
- determining one or more group assignments based on the group assignment rules and data related to the terminal.

4. (original) The method of claim 3, wherein the data related to the terminal includes one or more of Area of Dominant Influence (ADI), zip code+4, demographic data and programs watched data, virtual objects viewed, on-screen questionnaires and characteristics imported from marketing databases, the group assignments being updated to reflect changes in the ADI, zip code+4, demographic data, programs watched data, virtual objects viewed, on-screen questionnaires, and characteristics imported from marketing databases.

5. (previously presented) The method of claim 1, wherein the retrieval plan is sent periodically to the terminal, and wherein the group assignment rules are periodically sent to terminal.

6. (currently amended) A method of targeting interactive virtual objects, comprising:  
providing a program containing ~~one or more~~ a plurality of interactive virtual object

locations;

providing one of a plurality of interactive virtual objects for ~~one or more~~ each one of the plurality of the interactive virtual object locations, wherein said plurality of interactive virtual objects are dynamic and selected from a ranked list of the ~~one or more~~ plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of said ~~one or more~~ plurality of interactive virtual objects in each one of said plurality of interactive virtual object ~~location~~ locations of said ~~one or more~~ interactive virtual object locations, wherein each one of the plurality of interactive virtual advertisement locations are in a different location in said program;

providing at least one alternate interactive virtual object for at least one of the ~~one or more~~ plurality of interactive virtual object locations;

generating a retrieval plan at a user's terminal, wherein the retrieval plan designates which of the ~~one or more~~ plurality of interactive object locations displays an alternate interactive virtual object;

allocating delivery bandwidth within an available amount of total bandwidth in a communication channel for the provided plurality of interactive virtual objects and the at least one alternate interactive virtual object via a resource management engine;

delivering the provided plurality of interactive virtual objects and the at least one alternate interactive virtual object via said allocated delivery bandwidth;

receiving a selection of at least one of the ~~one or more~~ plurality of interactive virtual objects;

logging the received selection of said at least one of the ~~one or more~~ plurality of interactive virtual objects; and

billing an advertiser of said selected at least one of the ~~one or more~~ plurality of interactive virtual objects in response to said logged selection.

7. (original) The method of claim 6, wherein the program is a television program.

8. (original) The method of claim 6, wherein the program is one of an advertisement, an electronic program guide, and an Internet web page.

9. (currently amended) The method of claim 6, wherein at least one of the plurality of interactive virtual object locations is fixed in position across frames of the program.
10. (currently amended) The method of claim 6, wherein at least one of the plurality of interactive virtual object locations moves spatially in the program with time.
11. (original) The method of claim 6, further comprising providing at least one non-interactive virtual object.
12. (currently amended) The method of claim 6, wherein the program is broadcast to the terminal, further comprising:
- creating categories of interactive virtual objects and content;
  - defining group categories;
  - for one or more defined group categories, defining at least one group;
  - assigning one or more television terminals, for the one or more group, to the at least one group;
  - creating a group assignment matrix based on the categories of the plurality of interactive virtual objects, the group categories and the group assignment;
  - storing the group assignment matrix in the terminal; and
  - comparing the retrieval plan to the group assignment matrix to determine which one of the plurality of interactive virtual objects to display in each one of the ~~one or more~~ plurality of interactive virtual object locations.
13. (currently amended) The method of claim 12, wherein generating the retrieval plan, comprises:
- assigning one of the plurality of interactive virtual objects to each one of the ~~one or more~~ plurality of interactive virtual object locations;
  - assigning the alternate interactive virtual objects to at least one of the ~~one or more~~ plurality of interactive virtual object locations;
  - assigning a group to one or more of the plurality of interactive virtual objects and

the alternate interactive virtual objects; and

creating a group mask assignment, wherein the group mask assignment is used by the terminal to compare the retrieval plan to the group assignment matrix.

14. (original) The method of claim 13, wherein assigning the group to each of the default interactive virtual objects and the alternate interactive virtual objects, comprises:

ranking one or more of programs based on categories of targeted interactive virtual objects and a first percentage of total viewers who view one or more of the programs;

ranking of targeted interactive virtual objects based on a second percentage of total viewers;

determining, for the one or more ranked programs and the targeting categories, targeted interactive virtual objects with overall highest rankings, based on the first and the second percentages;

assigning targeted interactive virtual objects with the overall highest rankings to be displayed as the interactive virtual objects; and

assigning targeted virtual objects with lower overall rankings to be displayed as the alternate interactive virtual objects.

15. (original) The method of claim 13, wherein groups are defined based on characteristics of users.

16. (original) The method of claim 15, wherein the characteristics include user demographic information.

17. (original) The method of claim 15, wherein the characteristics include user entered information.

18. (original) The method of claim 15, wherein the characteristics include programs watched data.

19. (original) The method of claim 15, wherein the characteristics include interactive virtual objects watched data.
20. (original) The method of claim 15, wherein the characteristics include user activation of the interactive virtual objects.
21. (original) The method of claim 12, wherein the terminal is a television set top terminal.
22. (original) The method of claim 12, wherein the terminal is incorporated into one of a television, a personal computer and a PDA with video viewing capabilities.
23. (original) The method of claim 12, wherein the television terminal is coupled to a satellite television receiver.
24. (original) The method of claim 12, further comprising:
  - at the terminal, recording in a memory an identification of a virtual object displayed in a virtual object location;
  - providing the identification to a remote site; and
  - deleting the identification from the memory.
25. (original) The method of claim 12, wherein the retrieval plan is provided with the transmission of the program and periodically to the terminal, the terminal storing the retrieval plan in a memory.
26. (currently amended) A method of targeting interactive virtual objects to terminals, comprising:
  - creating a package of targeted plurality of interactive virtual objects, wherein said plurality of interactive virtual objects are dynamic;
  - providing the package to one or more of the terminals;
  - generating a group assignment matrix, wherein the group assignment matrix

assigns terminals to groups;

generating a retrieval plan;

storing the retrieval plan at one or more of the terminals;

providing a program to one or more of the terminals, the program including at least one a plurality of interactive virtual object location locations, wherein the retrieval plan designates one or more of said plurality interactive virtual objects to be displayed during a display of the program selected from a ranked list of said plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of said ~~one or more~~ plurality of interactive virtual objects in each one of said plurality virtual object location locations ~~of one or more virtual object locations~~, wherein each one of the plurality of interactive virtual advertisement locations are in a different location in said program;

allocating delivery bandwidth within an available amount of total bandwidth in a communication channel for the designated interactive virtual objects via a resource management engine;

delivering the designated interactive virtual objects via said allocated delivery bandwidth;

receiving a selection of at least one of the designated interactive virtual objects;

logging the received selection of said at least one of the designated interactive virtual objects; and

billing an advertiser of said selected at least one of the designated interactive virtual objects in response to said logged selection.

27. (currently amended) The method of claim 26, further comprising ~~at one or more~~ of the terminals receiving the program, retrieving one of the targeted plurality of virtual objects for display in the ~~at least one~~ each one of the plurality of virtual object location locations.

28. (original) The method of claim 27, wherein the retrieval step, comprises:  
comparing the group assignment matrix to the retrieval plan; and  
selecting an interactive virtual object for display based on the comparison.

29. (currently amended) The method of claim 26, wherein one or more of ~~at least one~~ said plurality of virtual object ~~location~~ locations contains an interactive virtual object, further comprising:

linking a terminal selecting the at least one designated interactive virtual object to an alternate program.

30. (original) The method of claim 29, wherein the alternative program comprises an Internet web site.

31. (original) The method of claim 26, wherein the step of generating the group assignment matrix, comprises:

generating group assignment rules;  
delivering group assignment rules to terminal; and  
determining one or more group assignments at one or more of the terminals based on the group assignment rules and individual terminal data and terminal group data.

32. (original) The method of claim 31, wherein the individual terminal data, comprises one or more of viewer demographic data, programs watched data, virtual objects viewed data, on-screen questionnaires, and characteristics imported from marketing databases, and wherein the terminal group data, comprises one or more ADI, zip code, and geographical data.

33. (original) The method of claim 31, wherein the group assignment rules are stored in one or more of the terminals.

34. (currently amended) A terminal for targeting a plurality of interactive virtual objects, comprising:

a connector that receives the plurality of interactive virtual objects and a plurality of interactive virtual object locations and metadata via delivery bandwidth allocated



within an available amount of total bandwidth in a communication channel by a resource management engine, wherein said plurality of interactive virtual objects are dynamic;

an interactive virtual objects extractor coupled to the connector that extracts the plurality of interactive virtual objects, the plurality of interactive virtual object locations and the metadata;

a storage processor coupled to the extractor that determines which of the extracted plurality of interactive virtual objects are targeted to the terminal and saves the extracted targeted interactive virtual objects in a memory;

an interactive virtual object selector processor coupled to the storage processor that determines an interactive virtual object placement for one or more stored interactive virtual objects selected from a ranked list of said plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of said plurality of interactive virtual objects in each one of said plurality of interactive virtual object ~~location~~ locations of said interactive virtual object locations, wherein each one of the plurality of interactive virtual advertisement locations are in a different location in a program; and

a computer readable memory for logging a received selection of at least one of the plurality of interactive virtual objects, wherein said logged selection is used for billing an advertiser of said selected at least one of the plurality of interactive virtual objects.

35. (currently amended) The terminal of claim 34, wherein the plurality of interactive virtual objects are received with programming content, and wherein the extractor extracts the plurality of interactive virtual objects from the programming content.

36. (currently amended) The terminal of claim 34, wherein the plurality of interactive virtual objects are received independently of programming content.

37. (currently amended) The terminal of claim 36, wherein the plurality of interactive virtual objects are received over the Internet.

38. (original) The terminal of claim 34, wherein the terminal is a terminal in a television program delivery system.
39. (original) The terminal of claim 38, wherein the terminal is a set top terminal.
40. (original) The terminal of claim 38, wherein the terminal is a television.
41. (original) The terminal of claim 34, wherein the terminal is one of a personal computer, a personal data assistant, and a wireless telephone.
42. (original) The terminal of claim 34, further comprising a placement log coupled to the selector processor that logs the placement of an interactive virtual object and further logs an interactive response to the interactive virtual object, wherein the placement and the response are stored in the memory, and wherein the selector processor uses the placement and the response in determining placements of future interactive virtual objects.
43. (currently amended) A system for targeting a plurality of interactive virtual objects, comprising:
- an interactive virtual object operations center that includes a resource management engine for allocating delivery bandwidth within an available amount of total bandwidth in a communication channel for selected interactive virtual objects and delivering the selected interactive virtual objects via said allocated delivery bandwidth;
  - an interactive virtual object insertion center coupled to said interactive virtual object operations center that defines a plurality of interactive virtual object locations in program content for insertion of one or more of said plurality of interactive virtual objects, the insertion center, comprising:
    - an interactive virtual object location definer,
    - an interactive virtual object selector coupled to the definer, and
    - an interactive virtual object manager coupled to the definer and the selector;

a terminal, coupled to the insertion center, that receives the plurality of interactive virtual objects, wherein said plurality of interactive virtual objects are dynamic and the program content having said plurality of interactive virtual object locations, wherein the terminal, comprises:

a location processor that detects the plurality of interactive virtual object locations in the program content;

a selector processor that determines which of the received plurality of interactive virtual objects are to be placed in allowable content locations for the plurality of interactive virtual objects selected from a ranked list of the plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of the plurality of interactive virtual objects in each one of the plurality of interactive virtual object ~~location~~ locations of said interactive virtual object locations, wherein each one of the plurality of interactive virtual advertisement locations are in a different location in said program content, and

an interactive virtual object trigger processor that receives and processes an interactive selection; and

a computer readable memory for logging a received selection of at least one of the plurality of interactive virtual objects, wherein said logged selection is used for billing an advertiser of said selected at least one of the plurality of interactive virtual objects.

44. (original) The system of claim 43, wherein the processed interactive selection is received at the insertion center, and wherein the received selection triggers a response that is sent to the terminal.

45. (original) The system of claim 43, wherein the processed interactive selections are retained at the terminal, wherein the received selection triggers a response that is generated at the terminal.

46. (currently amended) The system of claim 43, wherein the plurality of interactive virtual objects are delivered to the terminal by one of a cable television system, a

wireless broadcast system, a satellite broadcast system, a wired data network, a wireless PCS network, and a terrestrial television broadcast network.

47. (currently amended) The system of claim 43, further comprising an interactive virtual object retrieval plan, wherein the plurality of interactive virtual objects and the retrieval plan are delivered from an interactive virtual object delivery system.

48. (currently amended) The system of claim 43, further comprising an interactive virtual object retrieval plan, wherein the plurality of interactive virtual objects and the retrieval plan are delivered from the insertion center.

49. (original) The system of claim 48, further comprising replacement interactive virtual objects and a replacement interactive virtual object retrieval plan, wherein the replacement interactive virtual objects and the replacement retrieval plan are delivered from the local insertion center.

50. (currently amended) The system of claim 43, wherein an interactive virtual object of the plurality of interactive virtual objects, comprises:

- an interactive virtual object identifier;
- interactive virtual object placement rules, wherein the rules provide guidance to the terminal in managing insertion of interactive virtual objects into the program content;
- an interactive virtual object digital module, wherein the module comprises a digital file of the interactive virtual object; and
- an interactive virtual object trigger action that defines an action to be taken upon triggering of the virtual object at the terminal.

51. (original) The system of claim 50, wherein the interactive virtual object further comprises a virtual object applet that provides software capable of initiation by a source external to the terminal.

52. (original) The system of claim 50, wherein the interactive virtual object trigger

action initiates an interactive request to a location external to the terminal.

53. (original) The system of claim 52, wherein the location external to the system further comprises:

an interactive virtual object management center; and

an interactive virtual object servicing center coupled to the interactive virtual object management center, wherein the management center provides interactive virtual object response management guidelines to the servicing center, and wherein the guidelines determine an appropriate response based on receipt of an interactive request from the terminal.

54. (currently amended) The system of claim 43, wherein the terminal further comprises:

an interactive virtual object extractor that extracts interactive virtual objects from data received at the terminal;

an interactive virtual object location detector processor, coupled to the extractor, that determines the allowable content locations for the plurality of interactive virtual objects; and

an interactive virtual object insertion processor, coupled to the selector processor, that inserts the selected interactive virtual objects into the allowable content locations.

55. (original) The system of claim 54, wherein the terminal further comprises a storage management processor coupled to the extractor, wherein the management processor uses an interactive virtual object retrieval plan to determine which received interactive virtual objects are to be stored at the terminal.

56. (currently amended) The system of claim 43, wherein the plurality of interactive virtual objects are selectable by a user at the terminal.

57. (original) The system of claim 43, wherein the interactive selection is processed

automatically by the terminal.

58. (original) The system of claim 43, wherein the terminal further comprises a virtual object placement log, wherein when a virtual object is placed in a virtual object location, the selector processor records the event in the virtual object placement log.

59. (currently amended) A method of targeting a plurality of interactive virtual objects to terminals, comprising:

- creating a package of a plurality targeted interactive virtual objects, wherein said plurality of interactive virtual objects are dynamic;

- providing the package to one or more of the terminals;

- generating a group assignment matrix, wherein the group assignment matrix assigns terminals to groups;

- generating a retrieval plan;

- providing a program to one or more of the terminals, the program including at least one a plurality of interactive virtual object ~~location~~ locations, wherein the retrieval plan designates one or more of the plurality of interactive virtual objects to be displayed during a display of the program, wherein said plurality of interactive virtual objects are selected from a ranked list of the plurality of interactive virtual objects, wherein said ranked list is determined at least by a measure of effectiveness for each one of said plurality of interactive virtual objects in each one of said plurality of virtual object ~~location of one or more virtual object~~ locations, wherein each one of the plurality of interactive virtual advertisement locations are in a different location in said program;

- allocating delivery bandwidth within an available amount of total bandwidth in a communication channel for the designated plurality of interactive virtual objects via a resource management engine;

- delivering the designated plurality of interactive virtual objects via said allocated delivery bandwidth; and

- receiving a selection of at least one of the designated plurality of interactive virtual objects;

- logging the received selection of said at least one of the designated plurality of

interactive virtual objects; and

billing an advertiser of said selected at least one of the designated plurality of interactive virtual objects in response to said logged selection.

60. (currently amended) The method of claim 59, wherein one or more of said plurality of interactive virtual objects include triggers that initiate a signal from the terminal, the method further comprising:

receiving a trigger;

retrieving an interactive virtual object trigger action in response to receipt of the trigger; and

determining if the interactive virtual object trigger action requires initiation of an interactive request.

61. (original) The method of claim 60, wherein the interactive virtual object trigger action requires initiation of the interactive request, the method further comprising:

sending the interactive request;

awaiting an interactive response; and

initiating an interactive action based on the interactive response.

62. (original) The method of claim 60, wherein the interactive virtual object trigger action does not require initiation of the interactive request, the method further comprising initiating processing required by the interactive virtual object trigger action.

63. (currently amended) The method of claim 59, wherein one or more of ~~at least one~~ said plurality of virtual object ~~location~~ locations contains an interactive virtual object, further comprising:

linking a terminal selecting the at least one designated interactive virtual object to an alternate program.

64. (original) The method of claim 63, wherein the alternative program comprises an Internet web site.